

A NEW NEMATODE FROM THE RHEA

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On April 22, 1927, Dr. E. W. Price, of the zoological division, collected a number of nematodes from the gizzard and proventriculus of a bird (*Rhea americana*) that had died at the National Zoological Park, Washington, D. C. The males of these nematodes are of particular interest in that they possess remarkably long and slender spicules, which are equal in length and similar in appearance. As one of the diagnostic characters of the superfamily Spiruroidea is the possession of dissimilar spicules, and as this nematode must go in the Spiruroidea by virtue of its other characters, the definition of the superfamily will have to be emended to include this genus, the emendation covering the presence of either similar or dissimilar spicules. The definition of the family Spiruridae will also have to be emended to include this character, as the new genus *Odontospirura*, herein described, belongs to that family.

Family SPIRURIDAE Oerley, 1885

Family diagnosis.—Spiruroidea: Mouth usually with two large lateral lips. Esophagus long and cylindrical and divided into two parts. Male with caudal alae well developed and supported by pedunculated papillae, of which there are usually four preanal pairs; spicules usually dissimilar and unequal, sometimes similar and equal.

Subfamily SPIRURINAE Railliet, 1915

Subfamily diagnosis.—Spiruridae: Characters of the family.

ODONTOSPIRURA, new genus

Generic diagnosis.—Spirurinae: Mouth opening surrounded by two large lateral lips and by two interlabia in the dorsal and ventral fields, respectively. Four pairs of cephalic papillae are present in the submedian fields, the two most dorsal and the two most ventral of which are greatly reduced in size; the papillae are near the base

of the lips, while the amphids are on the lateral lips, at a level slightly anterior to the papillae. At least one lateral ala may be present. Cervical papillae just posterior to nerve ring. Male with caudal alae; spicules very long, equal or nearly equal in length, and similar. Caudal extremity pointed in both sexes. Gubernaculum present.

Type species.—*Odontospirura cetiopenis*, new species.

ODONTOSPIRURA CETIOPENIS, new species

FIGURES 1-3

Specific diagnosis.—*Odontospirura*: Body spirally coiled, sometimes in the shape of a corkscrew. Only one lateral ala present, on

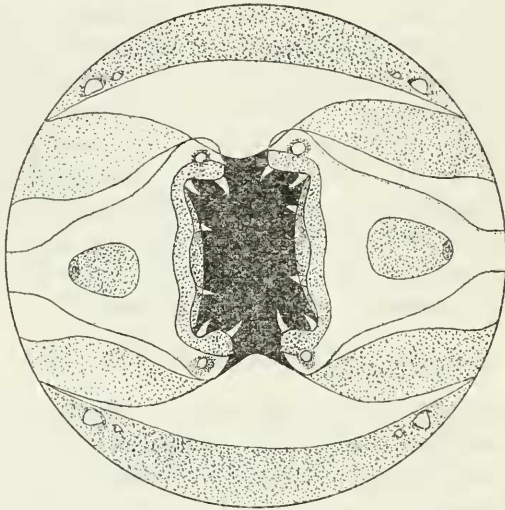


FIGURE 1.—*Odontospirura cetiopenis*, new species:
En face view of head

left side of body; it can be distinctly traced for about two-thirds the length of the body. Each of the lateral lips bears six conspicuous teeth on its inner edge.

Male, 15 mm to 17 mm long by 500μ wide in maximum width. Esophagus divided into two distinct parts, an anterior muscular part 430μ long and a posterior glandular part 3.55 mm long. Nerve ring about 360μ from anterior end of body. Cervical papillae 440μ from anterior end of body. Head distinctly set off from rest of body by a constriction at the base of the lips. Mouth opens into a short buccal cavity, the length of which equals approximately the height of the head. Caudal alae supported by four pairs of preanal and two pairs of postanal pedunculate papillae; a pair of sessile papillae

is located about midway between the anal opening and the posterior end of the body, and five or six other papillae, smaller in size and sessile, are to be seen near the posterior tip of the caudal alae. Spicules similar and very slender, equal or nearly equal in size, and about 10 to 11 μ long, this length being unusual for nematodes of the size of these. In most of the male specimens that were examined the spicules were extruded from the body for more than half their length, but in the type specimen one of the spicules remained unprotruded from the body and could be seen to extend from near the posterior end of the esophagus to the cloacal opening. Gubernaculum present, 1.08 mm long, triangular in shape in ventral view.

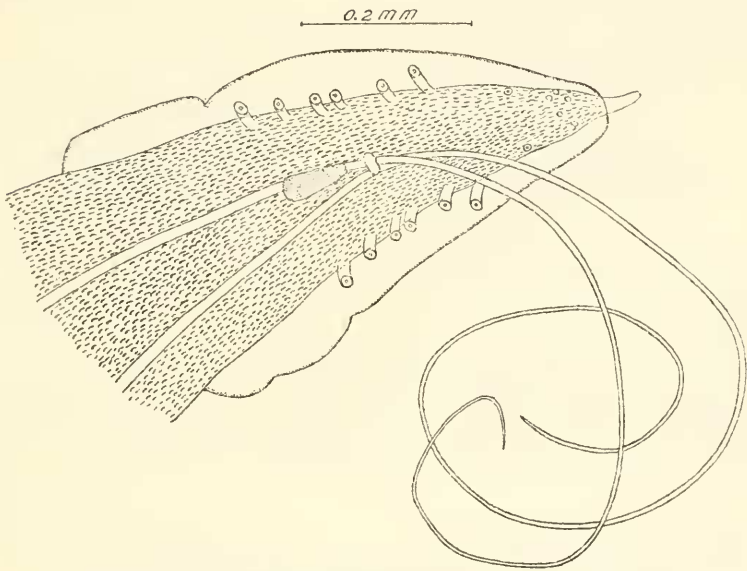


FIGURE 2.—*Odontospirura cetiopenis*, new species: Ventral view of male tail

Female, 20 mm to 23 mm long by 572μ wide in maximum width. The anterior end of body of most of the preserved specimens is slightly coiled. Anterior muscular part of esophagus 472μ long; posterior glandular part 3.6 mm long; latter portion a little broader than former. Nerve ring about 363μ from anterior end of body. Cervical papillae 447μ from anterior end of body. Vulva about 9.8 mm from anterior end of body. Anus prominent, 430μ from posterior end of body. Caudal extremity abruptly narrowed just posterior to anal opening; from there it gradually narrows to a blunt point. Eggs embryonated, 46μ long by 17μ wide.

Host.—*Rhea americana* (Linnaeus).

Location.—Proventriculus and gizzard.

Distribution.—National Zoological Park, Washington, D. C.

Type specimen.—U.S.N.M. Helm. Coll. No. 27583.

Remarks.—The presence of a dorsal and a ventral interlabium and two well-developed lateral lips, with the cephalic papillae situated near the bases of the lips, and the character of the male tail place this species definitely in the family Spiruridae. The possession of a dorsal and a ventral interlabium, and of a short chitinous buccal cavity, and the position of the vulva near the middle region of the body suggest its relation to the genus *Habronema*. The position of the cervical papillae, posterior to the nerve ring, and the length and character of the spicules of the male seem to warrant the erection of a new genus for this species.

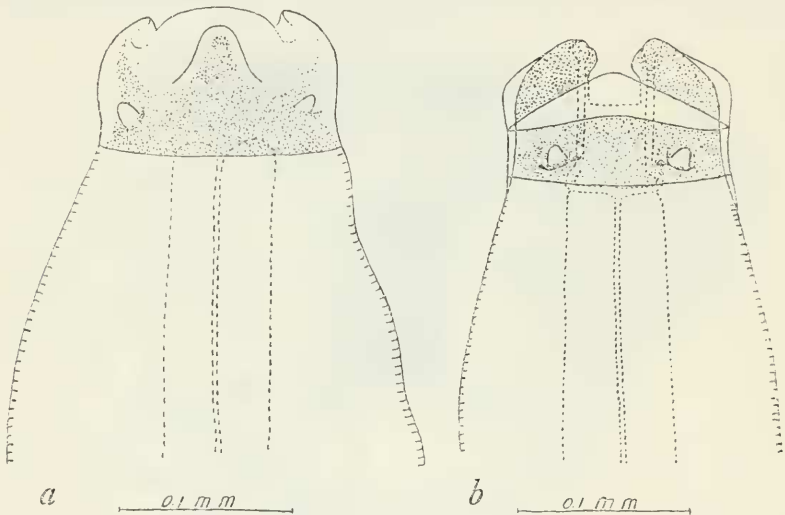


FIGURE 3.—*Odontospirura cetiopensis*: a, Lateral view of head; b, dorsal view of head

Cram (1927) lists two species of nematodes, *Spirura zschokkei* and *S. uncinipenis*, as being collected from the proventriculus of *Rhea americana*. The first species, which was called *Spiroptera alata* by Zschokke (1889), was later renamed *Spirura zschokkei* by Railliet and Henry in 1911, on the basis that the original name was pre-occupied by *Spiroptera alata* Rudolphi, 1819. Unfortunately Zschokke failed to give a complete description of this male specimen which he collected, as the number of caudal papillae and the length and character of the spicules were not given. More unfortunate than this, perhaps, is the fact that he did not figure any portion of the worm. The much greater length of the male of *S. zschokkei*, as given by Zschokke in his original description of this species, and

the presence of two lateral alae, which extend the entire length of the body, and of four chitinous teeth surrounding the mouth cavity differentiate *S. zschokkei* and the species here described as new. As regards *S. uncinipennis* (Molin, 1860), which has been redescribed and placed in the genus *Habronema* by Walton (1927), the dissimilar and very unequal spicules of this species, the different number and arrangement of caudal papillae of the male, the differently shaped interlabia, and other distinctions noted in an *en face* view of the heads readily separate it from the present species.

LITERATURE CITED

CRAM, ELŐISE B.

1927. Bird parasites of the nematode suborders Strongylata, Ascaridata, and Spirurata. U. S. Nat. Mus. Bull. 140, xvi+465 pp., 444 figs.

MOLIN, R.

1860. Una monografia del genera *Spiroptera*. Sitz. Akad. Wiss. Wien, math.-nat. Classe, vol. 38, pp. 911-1005.

RAILLIET, ALCIDE, and HENRY, A.

1911. Les helminthes du Nandou. Bull. Soc. Nat. d'Acclim. France, vol. 58, no. 17, pp. 538-541; no. 18, pp. 573-582, 6 figs.

RUDOLPHI, CARL ASMUND.

1819. Entozoorum synopsis cui accedunt mantissa duplex et indices locupletissimi, x+811 pp., 3 pls. Berlin.

WALTON, A. C.

1927. A revision of the nematodes of the Leidy collections. Proc. Acad. Nat. Sci. Philadelphia, vol. 79, pp. 49-163.

ZSCHOKKE, FRIEDRICH.

1889. *Spiroptera alata*, ein neuer Nematode aus *Rhea americana*. Centralb. für Bakt., Parasit., und Infekt., vol. 5, no. 24, pp. 792-794.